

APR 18 2002



1637

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/626,127

DATE: 04/11/2002

TIME: 14:21:55

Input Set : A:\00801-0087-CPUS04.ST25.txt

Output Set: N:\CRF3\04112002\I626127.raw

3 <110> APPLICANT: Garger, Stephen J.  
4 Turpen, Thomas H.  
5 Kumagai, Monto  
7 <120> TITLE OF INVENTION: Production of lysosomal enzymes in plants by transient expression

9 <130> FILE REFERENCE: 00801.0087.CPUS04  
C--> 11 <140> CURRENT APPLICATION NUMBER: US/09/626,127  
C--> 11 <141> CURRENT FILING DATE: 2000-07-26

ENTERED

11 <150> PRIOR APPLICATION NUMBER: 09/626,127  
12 <151> PRIOR FILING DATE: 2000-07-26  
14 <150> PRIOR APPLICATION NUMBER: 60/003,737  
15 <151> PRIOR FILING DATE: 1995-09-14  
17 <150> PRIOR APPLICATION NUMBER: 07/170,771  
18 <151> PRIOR FILING DATE: 1988-03-21  
20 <160> NUMBER OF SEQ ID NOS: 18  
22 <170> SOFTWARE: PatentIn version 3.1  
24 <210> SEQ ID NO: 1  
25 <211> LENGTH: 15  
26 <212> TYPE: PRT  
27 <213> ORGANISM: rice  
29 <400> SEQUENCE: 1  
31 Ser Asn Leu Thr Ala Gly Met Leu Asp Asn Gly Leu Ala Arg Thr  
32 1 5 10 15  
35 <210> SEQ ID NO: 2  
36 <211> LENGTH: 14  
37 <212> TYPE: PRT  
38 <213> ORGANISM: Homo sapiens  
40 <400> SEQUENCE: 2  
42 Asp Ile Pro Gly Ala Arg Ala Leu Asn Gly Leu Ala Arg Thr  
43 1 5 10  
46 <210> SEQ ID NO: 3  
47 <211> LENGTH: 30  
48 <212> TYPE: PRT  
49 <213> ORGANISM: Homo sapiens  
51 <400> SEQUENCE: 3  
53 Thr Ser Arg Leu Arg Ser His Ile Asn Pro Thr Gly Thr Val Leu Leu  
54 1 5 10 15  
57 Gln Leu Glu Asn Thr Met Gln Met Ser Leu Iys Asp Leu Leu

64 <213> ORGANISM: Homo sapiens  
66 <400> SEQUENCE: 4

## RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/626,127

DATE: 04/11/2002

TIME: 14:21:55

RECEIVED

APR 18 2002

Input Set : A:\00801-0087-CPUS04.ST25.txt

Output Set: N:\CRF3\04112002\I626127.raw

TECH CENTER 1600 2900

```

68 Thr Ser Arg Leu Arg Ser His Ile Asn Pro Thr Gly Thr Val Leu Leu
69 1 5 10 15
72 Gln Leu Glu Asn Thr Met Gln Met Ser Leu Lys Asp Leu Leu Ser Glu
73 20 25 30
76 Lys Asp Glu Leu
77 35
80 <210> SEQ ID NO: 5
81 <211> LENGTH: 26
82 <212> TYPE: PRT
83 <213> ORGANISM: Homo sapiens
85 <400> SEQUENCE: 5
87 Thr Ser Arg Leu Arg Ser His Ile Asn Pro Thr Gly Thr Val Leu Leu
88 1 5 10 15
91 Gln Leu Glu Asn Thr Met Gln Met Ser Leu
92 20 25
95 <210> SEQ ID NO: 6
96 <211> LENGTH: 32
97 <212> TYPE: PRT
98 <213> ORGANISM: Homo sapiens
100 <400> SEQUENCE: 6
102 Thr Ser Arg Leu Arg Ser His Ile Asn Pro Thr Gly Thr Val Leu Leu
103 1 5 10 15
106 Gln Leu Glu Asn Thr Met Gln Met Ser Leu Ser Glu Lys Asp Glu Leu
107 20 25 30
110 <210> SEQ ID NO: 7
111 <211> LENGTH: 22
112 <212> TYPE: PRT
113 <213> ORGANISM: Homo sapiens
115 <400> SEQUENCE: 7
117 Thr Ser Arg Leu Arg Ser His Ile Asn Pro Thr Gly Thr Val Leu Leu
118 1 5 10 15
121 Gln Leu Glu Asn Thr Met
122 20
125 <210> SEQ ID NO: 8
126 <211> LENGTH: 28
127 <212> TYPE: PRT
128 <213> ORGANISM: Homo sapiens
130 <400> SEQUENCE: 8
132 Thr Ser Arg Leu Arg Ser His Ile Asn Pro Thr Gly Thr Val Leu Leu
133 1 5 10 15
136 Gln Leu Glu Asn Thr Met Ser Glu Lys Asp Glu Leu
137 20 25
140 <210> SEQ ID NO: 9
141 <211> LENGTH: 18
142 <212> TYPE: PRT
143 <213> ORGANISM: Homo sapiens
145 <400> SEQUENCE: 9
147 Thr Ser Arg Leu Arg Ser His Ile Asn Pro Thr Gly Thr Val Leu Leu

```

## RAW SEQUENCE LISTING

DATE: 04/11/2002

PATENT APPLICATION: US/09/626,127

TIME: 14:21:55

Input Set : A:\00801-0087-CPUS04.ST25.txt

Output Set: N:\CRF3\04112002\I626127.raw

```

151 Gln Leu
155 <210> SEQ ID NO: 10
156 <211> LENGTH: 24
157 <212> TYPE: PRT
158 <213> ORGANISM: Homo sapiens
160 <400> SEQUENCE: 10
162 Thr Ser Arg Leu Arg Ser His Ile Asn Pro Thr Gly Thr Val Leu Leu
163 1 5 10 15
166 Gln Leu Ser Glu Lys Asp Glu Leu
167 20
170 <210> SEQ ID NO: 11
171 <211> LENGTH: 5
172 <212> TYPE: PRT
173 <213> ORGANISM: Homo sapiens
175 <400> SEQUENCE: 11
177 Thr Ser Arg Leu Arg
178 1 5
181 <210> SEQ ID NO: 12
182 <211> LENGTH: 11
183 <212> TYPE: PRT
184 <213> ORGANISM: Homo sapiens
186 <400> SEQUENCE: 12
188 Thr Ser Arg Leu Arg Ser Glu Lys Asp Glu Leu
189 1 5 10
192 <210> SEQ ID NO: 13
193 <211> LENGTH: 11641
194 <212> TYPE: DNA
195 <213> ORGANISM: Tobacco mosaic virus
197 <400> SEQUENCE: 13
198 gtattttttac aacaattacc aacaacaaca aacaacaaac aacattacaa ttactattta 60
200 caattacaat ggcatacaca cagacagcta ccacatcagc tttgctggac actgtccgag 120
202 gaaacaactc cttgggtcaat gatctagcaa agcgtcgtct ttacgacaca gcggttgaag 180
204 agtttaacgc tcgtgaccgc aggcccaagg tgaacttttc aaaagtaata agcgaggagc 240
206 agacgcttat tgctaccccg gcgtatccag aattccaaat tacattttat aacacgcaaa 300
208 atgccgtgca ttcgcttgca ggtggattgc gatctttaga actggaatat ctgatgatgc 360
210 aaattcccta cggatcattg acttatgaca taggcgggaa ttttgcacgc catctgttca 420
212 agggacgagc atatgtacac tgctgtatgc ccaacctgga cgttcgagac atcatgcggc 480
214 acgaaggcca gaaagacagt attgaactat acctttctag gctagagaga ggggggaaaa 540
216 cagtccccaa cttccaaaag gaagcatttg acagatacgc agaaattcct gaagacgctg 600
218 tctgtcacia tactttccag acaatgcgac atcagccgat gcagcaatca ggcagagtgt 660
220 atgccattgc gctacacagc atatatgaca taccagccga tgagttcggg gcggcactct 720
222 tgaggaaaaa tgtccatacg tgctatgccg ctttccactt ctctgagaac ctgcttcttg 780
224 aagattcata cgtcaatttg gacgaaatca acgcgtgttt ttccgcgat ggagacaagt 840
226 tgaccttttc ttttgcacga gagagtactc ttaattattg tcatagttat tctaattatc 900
228 ttaagtatgt gtgcaaaact tacttcccgg cctcctaata agagggtttac atgaaggagt 960
230 ttttagtcac cagagttaat acctgggttt gtaagttttc tagaatagat acttttcttt 1020
232 tqtacaaaag tqtggcccat aaaaqtqtaa ataqtgaqca qttttatact qcaatqaaa 1080

```

## RAW SEQUENCE LISTING

DATE: 04/11/2002

PATENT APPLICATION: US/09/626,127

TIME: 14:21:55

Input Set : A:\00801-0087-CPUS04.ST25.txt

Output Set: N:\CRF3\04112002\I626127.raw

238	tcgacatttc	tttggagact	agtaagagga	cgcgcaagga	agtcttagtg	tccaaggatt	1260
240	tcgtgtttac	agtgtttaac	cacattcgaa	cataccaggc	gaaagctctt	acatacgcga	1320
242	atgttttgtc	ctttgtcgaa	tcgattcgat	cgagggtaat	cattaacggg	gtgacagcga	1380
244	ggtcogaatg	ggatgtggac	aaatctttgt	tacaatcctt	gtccatgacg	ttttacctgc	1440
246	atactaagct	tgcggttcta	aaggatgact	tactgattag	caagtttagt	ctcgggttcga	1500
248	aaacgggtgtg	ccagcatgtg	tgggatgaga	tttcgctggc	gtttgggaac	gcatttcctt	1560
250	ccgtgaaaaga	gaggtctttg	aacaggaaaac	ttatcagagt	ggcagggcgac	gcattagaga	1620
252	tcagggtgcc	tgatctatat	gtgaccttcc	acgacagatt	agtgactgag	tacaaggcct	1680
254	ctgtggacat	gcctgcgctt	gacattagga	agaagatgga	agaaacggaa	gtgatgtaca	1740
256	atgcactttc	agagttatcg	gtgttaaggg	agtctgacaa	attcgatggt	gatgtttttt	1800
258	cccagatgtg	ccaatctttg	gaagttgacc	caatgacggc	agcgaagggt	atagtcgcgg	1860
260	tcagtagcaa	tgagagcggg	ctgactotca	catttgaaag	acctactgag	gcgaatgttg	1920
262	cgctagcttt	acaggatcaa	gagaaggctt	cagaagggtg	tttggtagtt	acctcaagag	1980
264	aagttgaaga	acggtccatg	aagggttcga	tggccagagg	agaattacaa	ttagctgggtc	2040
266	ttgctggaga	tcattccggag	togtctatt	ctaagaacga	ggagatagag	tctttagagc	2100
268	agtttcatat	ggcaacggca	gattcgttaa	ttcgtaagca	gatgagctcg	attgtgtaca	2160
270	cgggtccgat	taaagttcag	caaataaaaa	actttatcga	tagcctggta	gcatacactat	2220
272	ctgctgcggg	gtcgaatctc	gtcaagatcc	tcaaagatac	agctgctatt	gaccttgaaa	2280
274	cccgtaaaaa	gtttggagtc	ttggatgttg	catctaggaa	gtgggttaac	aaaccaacgg	2340
276	ccaagagtca	tgcatggggg	gttggtgaaa	cccacgcgag	gaagtatcat	gtggcgcttt	2400
278	tggaatatga	tgagcagggt	gtggtgacat	gcgatgattg	gagaagagta	gctgtcagct	2460
280	ctgagtctgt	tgtttattcc	gacatggcga	aactcagaac	tctgcgcaga	ctgcttcgaa	2520
282	acgggagacc	gcagtgcagt	agcgcaaagg	ttgttcttgt	ggacggaggt	ccgggctgtg	2580
284	cgaaaaccaa	agaaattctt	tccagggtta	attttgatga	agatctaatt	ttagtacctg	2640
286	ggaagcaagc	cgcggaatg	atcagaagac	gtgcgaattc	ctcagggtt	attgtggcca	2700
288	cgaaggacaa	cgtaaaaacc	gttgattctt	tcattgatga	ttttgggaaa	agcacacgct	2760
290	gtcagttcaa	gaggttattc	attgatgaag	ggttgatgtt	gcatactggg	tgtgttaatt	2820
292	ttcttgtggc	gatgtcattg	tgcgaaattg	catatgttta	cggagacaca	cagcagattc	2880
294	catacatcaa	tagagtttca	ggattcccg	accccgccca	ttttgccaaa	ttggaagttg	2940
296	acgaggtgga	gacacgcaga	actactctcc	gttgctccag	cgatgtcaca	cattatctga	3000
298	acaggagata	tgagggcttt	gtcatgagca	cttcttcggg	taaaaagtct	gtttcgcagg	3060
300	agatggtcgg	cggagccg	gtgatcaatc	cgatctcaaa	accttgcg	ggcaagatcc	3120
302	tgacttttac	ccaatcggat	aaagaagctc	tgttttcaag	agggtattca	gatgttcaca	3180
304	ctgtgcatga	agtgcaggc	gagacatact	ctgatgtttc	actagttagg	ttaaccccta	3240
306	caccagtctc	catcattgca	ggagacagcc	cacatgtttt	ggtcgcattg	tcaaggcaca	3300
308	cctgttcgct	caagtactac	actgttggtt	tggatccttt	agttagtatc	attagagatc	3360
310	tagagaaact	tagctogtac	ttgttagata	tgtataaggt	cgatgcagga	acacaatagc	3420
312	aattacagat	tgactcgggt	ttcaaagggt	ccaatctttt	tgttcgagcg	ccaaagactg	3480
314	gtgatatttc	tgatatgcag	ttttactatg	ataagtgtct	cccaggcaac	agcaccatga	3540
316	tgaataattt	tgatgctgtt	accatgaggt	tgaactgacat	ttcattgaat	gtcaaagatt	3600
318	gcataattgga	tatgtotaag	tctgttgctg	cgcctaagga	tcaaatacaa	ccactaatac	3660
320	ctatggtacg	aacggcggca	gaaatgccac	gccagaactg	actattggaa	aatttagtgg	3720
322	cgatgattaa	aaggaaactt	aacgcacccg	agttgtctgg	catcattgat	attgaaaata	3780
324	ctgcatcttt	agttgtagat	aagttttttg	atagttattt	gcttaaagaa	aaaagaaaac	3840
326	caataaaaaa	tgtttctttg	ttcagtagag	agtcctctca	tagatgggtt	gaaaagcagg	3900
328	aacaggtaac	aataggccag	ctcgcagatt	ttgattttgt	agatttgcca	gcagttgatc	3960
330	agtaacagaa	catgattaaa	gcacaaccca	agcaaaaatt	agacacttca	atccaaacgg	4020

## RAW SEQUENCE LISTING

DATE: 04/11/2002

PATENT APPLICATION: US/09/626,127

TIME: 14:21:55

Input Set : A:\00801-0087-CPUS04.ST25.txt

Output Set: N:\CRF3\04112002\I626127.raw

336	ttttcacaag	aaagacacca	gcgcagattg	aggattttctt	cggagatctc	gacagtcattg	4200
338	tgccgatgga	tgtcttggag	ctggatatat	caaaatacga	caaattctcag	aatgaattcc	4260
340	actgtgcagt	agaatacagag	atctggcgaa	gattgggttt	tgaagacttc	ttgggagaag	4320
342	tttggaaaca	aggcataga	aagaccaccc	tcaaggatta	taccgcaggt	ataaaaaactt	4380
344	gcattctgga	tcaaaagaaag	agcggggacg	tcacgacgtt	cattggaaac	actgtgatca	4440
346	ttgctgcattg	tttggcctcg	atgcttccga	tggagaaaat	aatcaaagga	gccttttgcg	4500
348	gtgacgatag	tctgctgtac	tttccaaagg	gttgtgagtt	tccggatgtg	caacactccg	4560
350	cgaattcttat	gtggaattttt	gaagcaaaaac	tgtttaaaaa	acagtatgga	tacttttgcg	4620
352	gaagatatgt	aatacatcac	gacagaggat	gcattgtgta	ttacgatccc	ctaaagttaga	4680
354	tctcgaaact	tgggtgctaaa	cacatcaagg	attgggaaca	cttggaggag	ttcagaaggt	4740
356	ctcttttgtga	tgttgcctgtt	tcgttgaaca	attgtgcgta	ttacacacag	ttggacgacg	4800
358	ctgtatggga	ggttcataag	accgcccctc	caggttcgtt	tgtttataaa	agtctgggtga	4860
360	agtattttgtc	tgataaaagt	cttttttagaa	gtttgtttat	agatggctct	agttgttaaa	4920
362	ggaaaagtga	atatcaatga	gtttatcga	ctgacaaaaa	tggagaagat	cttaccgtcg	4980
364	atgtttaccc	ctgtaaagag	tgttatgtgt	tccaaagtgt	ataaaataat	ggttcattgag	5040
366	aatgagtcatt	tgtcagaggt	gaaccttctt	aaaggagtta	agcttattga	tagtggatac	5100
368	gtctgttttag	ccggttttgt	cgtcacgggc	gagtggaaact	tgccctgacaa	ttgcagagga	5160
370	ggtgtgagcg	tgtgtctggt	ggacaaaagg	atggaaagag	ccgacgaggc	cactctcgga	5220
372	tcttactaca	cagcagctgc	aaagaaaaga	tttcagttca	aggctcgttc	caattatgct	5280
374	ataaccaccc	aggacgcgat	gaaaaacgtc	tggcaagttt	tagttaatat	tagaaatgtg	5340
376	aagatgtcag	cgggtttctg	tccgctttct	ctggagtttg	tgtcgggtgtg	tattgtttat	5400
378	agaaataata	taaaattagg	tttgagagag	aagattacaa	acgtgagaga	cggagggccc	5460
380	atggaactta	cagaagaagt	cgttgatgag	ttcatggaag	atgtccctat	gtcgtacagg	5520
382	cttgcaaagt	ttcgatctcg	aaccggaaaa	aagagtgatg	tccgcaaagg	gaaaaatagt	5580
384	agtaatgatc	ggtcagtgcc	gaacaagaac	tatagaaatg	ttaaggattt	tggaggaatg	5640
386	agtttttaaaa	agaataattt	aatcgatgat	gattcggagg	ctactgtcgc	cgaatcggat	5700
388	tcgttttaaaa	tagatcttac	agtatcacta	ctccatctca	gttcgtgttc	ttgtcattaa	5760
390	tatgcaggtg	ctgaacacca	tggatgaaca	acacttcttg	tccctttcgg	tcctcatcgt	5820
392	cctccttggc	ctctcctcca	acttgacagc	cggcatgctg	gacaatggat	tggcaaggac	5880
394	gcctaccatg	ggctggctgc	actgggagcg	cttcattgtg	aaccttgact	gccaggaaga	5940
396	gccagattcc	tgcattcagtg	agaagctctt	catggagatg	gcagagctca	tggctcaga	6000
398	aggctggaag	gatgcaggtt	atgagtacct	ctgcattgat	gactgttggg	tggctcccca	6060
400	aagagattca	gaaggcagac	ttcaggcaga	ccctcagcgc	tttctctatg	ggattcgcca	6120
402	gctagctaat	tatgttcaca	gcaaaggact	gaagctaggg	atttatgcag	atgttggaaa	6180
404	taaaacctgc	gcaggcttcc	ctgggagttt	tggatactac	gacattgatg	cccagacctt	6240
406	tgtgactggt	ggagtagatc	tgctaaaatt	tgatgggtgt	tactgtgaca	gtttggaaaa	6300
408	tttggcagat	ggttataaag	acatgtcctt	ggccctgaat	aggactggca	gaagcattgt	6360
410	gtactcctgt	gagtggcctc	tttatatgtg	gccctttcaa	aagcccaatt	atacagaaat	6420
412	ccgacagtac	tgcaatcact	ggcgaaaatt	tgtcgacatt	gatgattcct	ggaaaagtat	6480
414	aaagagtatc	ttggactgga	catcttttaa	ccaggagaga	attgttgatg	ttgctggacc	6540
416	agggggttgg	aatgacctag	atatgttagt	gattggcaac	tttggcctca	gctggaatca	6600
418	gcaagtaact	cagatggccc	tctgggctat	catggctgct	cctttattca	tgtctaatga	6660
420	cctccgacac	atcagccctc	aagccaaaag	tctccttcag	gataaggacg	taattgccat	6720
422	caatcaggac	cccttgggca	agcaagggtg	ccagcttaga	caggagagaca	actttgaagt	6780
424	gtgggaacga	cctctctcag	gcttagcctg	ggctgtagct	atgataaacc	ggcaggagat	6840
426	tgggtggacct	cgtctttata	ccatgcaggt	tgtctccctg	ggtaaaggag	tggcctgtaa	6900
428	tctgacctgc	ttcatcacac	agctcctccc	tgtgaaaaag	aaactaaggt	tctatgaatg	6960

## RAW SEQUENCE LISTING ERROR SUMMARY

DATE: 04/11/2002

PATENT APPLICATION: US/09/626,127

TIME: 14:21:56

Input Set : A:\00801-0087-CPUS04.ST25.txt

Output Set: N:\CRF3\04112002\I626127.raw

Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:15; Xaa Pos. 1,2,4